

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 10, 12, 15, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hammond et al. (U.S. Pat. 5,750,207) in view of Okazaki et al. (EP 1 081 247 A2).

Regarding claim 10, Hammond et al. teach a modular device for coating surfaces of items with a vacuum chamber in a physical vapor deposition method can be carried out. The vacuum chamber comprises at least one anode means 16 as well as a plurality of receiving devices for cathodes 13, 14, 15; wherein several arcs between the anode means, of which there is at least one, and the cathode can be ignited. A first

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receiving device for receiving at least one cathode 14 is provided substantially in the centre of the vacuum chamber; and at least one second receiving device for receiving at least one cathode on the edge of the vacuum chamber is provided, and the second receiving device is designed as a removable and/or swing-open door of the vacuum chamber. (Column 3 lines 25-57; Column 5 lines 27-29)

Regarding claim 12, Hammond et al. teach that two receiving devices are designed for receiving at least two cathodes each on the edge of the vacuum chamber as removable or swing open doors of the vacuum chamber. (Column 3 lines 25-37)

Regarding claim 15, Hammond et al. teach a substrate arrangement means for receiving one or several items to be coated. (Column 3 lines 43-51)

Regarding claim 16, Hammond et al. teach the vacuum chamber can be anodic based on the potential of the chamber. (See Fig. 1)

Regarding claim 17, Hammond et al. teach the substrate arrangement means is a rotary carousel, and the rotary carousel is designed around the first receiving device. (Column 3 lines 43-51)

The difference between the present claims and Hammond et al. is that the second receiving device is designed for receiving several cathodes such that the cathodes are approximately cylindrical in shape and are arranged substantially horizontally and substantially one on top of the other such that the cathodes protrude into the vacuum chamber is not discussed (Claim 10).

Regarding claim 10, Hammond et al. teach in Fig. 2 cathodes protruding into the vacuum chamber. (Fig. 2) Okazaki et al. teach locating cathodes substantially

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horizontally one on top of the other in Fig. 1. (See Fig. 1) Okazaki et al. teach in Figure 2 the cathodes 42 are approximately cylindrical. (See Fig. 2)

The motivation for utilizing the features of Okazaki et al. is that it allows for forming a film in a large area. (Paragraph 0014)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Hammond et al. by utilizing the features of Okazaki et al. because it allows for forming a film in a large area.

Claims 13, 14 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hammond et al. in view of Okazaki et al. as applied to claims 10, 12, 15, 16, and 17 above, and further in view of Holubar et al. (WO 02/50864 A1).

The differences not yet discussed is that the first receiving device for receiving cathodes in the center of the vacuum chamber is designed for receiving optionally one to four cathodes, preferably rotating cathodes, that are arranged so as to be substantially vertical and that are approximately cylindrical in shape is not discussed (Claim 13), wherein each cathode is a rotating cathode (Claim 14) and wherein the second receiving device is designed for receiving several rotating cathodes is not discussed (Claim 22)

Regarding claims 13, Holubar et al. teach utilizing cathodes cylindrical in shape or arc discharge. (See Abstract; Page 6 lines 15-25)

Regarding claim 14, Holubar et al. teach a rotating cathode. (Page 8 line 5)

Regarding claim 22, Holubar et al. teach the receiving devices for receiving several rotating cathodes. (See Abstract; Page 6 lines 15-25; Page 8 line 5)

The motivation for utilizing the features of Holubar et al. is that it allows for better utilization of cathode material. (Page 3 lines 14-17)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the features of Holubar et al. because it allows for better utilization of cathode material.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hammond et al. in view of Okazaki et al. as applied to claims 10, 12, 15, 16, and 17 above, and further in view of Bergmann (U.S. Pat. 4,877,505).

The difference not yet discussed is that rotary carousel is designed such that on the rotary carousel rotary trolleys can be arranged for receiving items to be coated, and/or for receiving items to be coated is not discussed. (Claim 18)

Regarding claim 18, Bergmann teach utilizing rotary trolleys fro receiving items to be coated. (Column 6 lines 30-48)

The motivation for utilizing the features of Bergmann is that it allows for achieving uniform coating. (Column 6 lines 47-48)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the features of Bergmann because it allows for achieving uniform coating.

Response to Arguments

Applicant's arguments filed January 25, 2010 have been fully considered but they are not persuasive.

The 35 U.S.C. 112 rejections have been overcome.

In response to the argument that Okazaki teach away from cathodes arranged to protrude into the vacuum chamber, it is argued that Okazaki was relied upon to teach replacing the single cathode of Hammond with multiple cathodes of Okazaki for the benefit of coating larger areas. If replaced the cathodes would protrude into the vacuum chamber. Furthermore in Okazaki the vacuum chamber includes the box shaped structure and the duct as shown in Fig. 1 thus the cathodes of Okazaki protrude into the vacuum chamber. (See Okazaki and Hammond discussed above)

In response to the argument that it is not possible to replace the cathodes of the apparatus in accordance with Okazaki by cathodes which are approximately cylindrical in shape and are arranged substantially horizontally such that the cathodes protrude into the vacuum chamber, it is argued that in Okazaki the cathodes are approximately cylindrical as seen in Fig. 2. As discussed above the vacuum chamber includes the box shaped structure and the duct as shown in Fig. 1 thus the cathodes of Okazaki protrude into the vacuum chamber. (See Okazaki discussed above)

In response to the argument that there is no motivation for combining the cathodes of Okazaki with Hammond, it is argued that the motivation for combining Okazaki with Hammond is that it allows for coating larger areas by using multiple cathodes. (See Okazaki and Hammond discussed above)

In response to the argument that Hammond and Okazaki do not reasonably teach second receiving device designed for receiving several cathodes such that the cathodes are approximately cylindrical in shape and are arranged substantially horizontally and substantially one on top of the other such that the cathodes protrude

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into the vacuum chamber, it is argued that in Okazaki the cathodes are approximately cylindrical as seen in Fig. 2. As discussed above the vacuum chamber includes the box shaped structure and the duct as shown in Fig. 1 thus the cathodes of Okazaki protrude into the vacuum chamber. (See Okazaki discussed above)

In response to the argument that claims 13 and 14 are allowable at least for the same reasons that claim 10 is allowable, it is argued that claims 13 and 14 are not allowable at least for the same reasons that claim 10 is not allowable as discussed above.

In response to the argument that claim 18 is allowable at least for the same reasons that claim 10 is allowable, it is argued that claim 18 is not allowable for at least the same reasons that claim 10 is not allowable as discussed above.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 571-272-1340. The examiner can normally be reached on M-Th with every Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rodney G. McDonald/
Primary Examiner, Art Unit 1795

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RM
April 21, 2010